

Healthy Smiles for a Healthy Head Start

2003 Oral Health Survey



***Wisconsin Department of Health and Family Services
Division of Public Health***

**Healthy Smiles for a Head Start:
An Oral Health Needs Assessment of Wisconsin's
Head Start Children
2003**



Acknowledgement

The Wisconsin Department of Health and Family Services wishes to thank all the Head Start agencies and children that participated in the *Healthy Smiles for a Head Start Survey 2003*. Major funding for this survey was provided by the Maternal and Child Health Title V Services Block Grant, Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services.

Preface

During 2003, the Wisconsin Department of Health and Family Services conducted a statewide oral health screening survey of preschool children enrolled in the Head Start program. Head Start is a comprehensive child development program that serves children from birth to age five, pregnant women, and their families. It is a child-focused program with the overall goal of increasing the school readiness of young children in low-income families. In FY 2002, 13,489 children were served by Head Start in Wisconsin.

This *Healthy Smiles for a Head Start* survey was funded through the Federal Maternal and Child Health Title V Services Block Grant received by the Department of Health and Family Services. This report describes the results of the first, comprehensive oral health survey of Head Start children in Wisconsin.

The purpose of the *Healthy Smiles for a Head Start* survey was to learn about the oral health of Head Start children in Wisconsin. Most of these children are from 3 to 5 years of age. Information from the *Healthy Smiles for a Head Start* survey will assist us in planning future oral health programs targeted to this group.

The survey collected information on caries (cavities) experience; the prevalence of Early Childhood Caries (decayed, filled, or missing teeth due to cavities in one of the six upper front teeth of children of children age 3 or under); and the need for urgent dental treatment. The results of the survey will be used to (1) establish a baseline for monitoring Head Start children's oral health status; (2) assess the extent of Head Start children's oral health needs; and (3) establish and focus Head Start prevention programs, policies, and funding.

This report is available on the Department of Health and Family Services Web site (see address below). Comments, suggestions and requests for further information may be addressed to:

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Introduction



According to the Surgeon General's report on oral health, tooth decay is the single most common chronic childhood disease. As with general health, oral health status tends to vary based on sociodemographic factors.¹ Children enrolled in Head Start, like other children from families with low incomes, experience more tooth decay, more extensive tooth decay, and more pain and suffering from tooth decay than children from families with higher incomes.² The impact of oral diseases in children is substantial. Early tooth loss caused by tooth decay can result in delays in growth and development. Dental problems can lead to impaired speech development and an inability to participate in childhood activities. This includes absences from child development programs such as Head Start. Children experiencing chronic dental pain are unable to focus and may have difficulty completing schoolwork. Their performance in school could deteriorate.

To establish a baseline for monitoring oral disease status and trends in young children in Wisconsin, the Department of Health and Family Services, in cooperation with Head Start agencies, conducted a statewide assessment of the oral health status of Head Start children in 2003. The information can be used for policy development and program planning purposes. This report summarizes the findings of this *Healthy Smiles for a Head Start* survey. All of the data on Wisconsin children presented in this report is from the *Healthy Smiles for a Head Start* survey. The Data Tables section at the end of this report presents the data that is illustrated in the figures used throughout the report.

Sampling



A database of the Head Start grantees (Appendix A) in Wisconsin that included counties served and enrollment was used to generate a random sample of Head Start grantees (Appendix B) within each of the Department's five geographic regions - southern, southeastern, northeastern, western and northern (Appendix C). The number of children screened in each region was proportional to the number of children in that region enrolled in the Head Start program. While the results of this assessment are representative of the oral health of Head Start children, they are not representative of all preschool children in Wisconsin. Only those children that returned a positive consent form were screened.

¹ Oral Health in America: A Report of the Surgeon General, U.S. Department of Health and Human Services, 2000

² Edelstein, B., Access to Dental Care for Head Start Enrollees, *Journal of Public Health Dentistry*, 60 (3), pages 221-229, 2000

Methods

This survey followed the methods outlined in the Association of State and Territorial Dental Directors' 1999 publication, *Basic Screening Surveys: An Approach to Monitoring Community Oral Health*. The screenings were completed by one dental hygienist that participated in both a training and calibration session.

The screenings were completed using gloves, flashlight, and a disposable mirror. If necessary, a toothbrush was used to remove excess debris.

The information obtained from the school and during the screening included the following:

- *Child's date of birth, age, gender, race, and ethnicity*
- *Untreated cavities (no, yes)*
- *Caries experience in the primary dentition (no, yes)*
- *Early Childhood Caries – decay and/or fillings in the upper anterior teeth (no, yes)*
- *Treatment urgency (urgent need for dental care, early dental care is needed, no obvious problems)*
 - Criteria for urgent care: signs or symptoms that include pain, infection, swelling, or soft tissue ulceration of more than two weeks duration.
 - Criteria for early dental care: caries without accompanying signs or symptoms, individuals with spontaneous bleeding of the gums, or suspicious white or red soft tissue areas.
 - Criteria for no obvious problems: any patient without the above problems.



The data were entered and charts and tables prepared using Epi Info 6.04, a public access software program developed and supported by the U.S. Centers for Disease Control and Prevention.

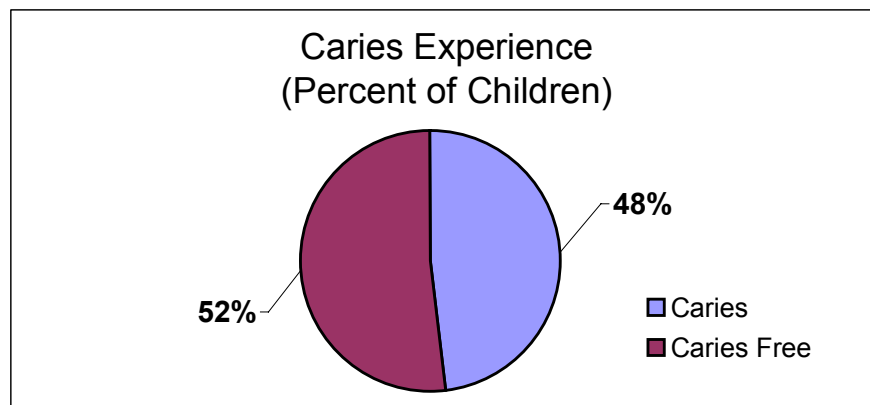
Key Findings - Statewide



A total of 456 children were screened. The children ranged in age from 3 to 6 years with the majority (66 percent) being either 4 or 5 years of age. The mean age for the children was 4.4 years. About half of the children (49 percent) were female, 32 percent were white non-Hispanic, 22 percent were black non-Hispanic, 32 percent were Hispanic, and 7.7 percent were Asian. Refer to Data Table 1 (see page 17) for demographic information.

Key Finding #1: 52 percent of the children were caries (cavity) free.

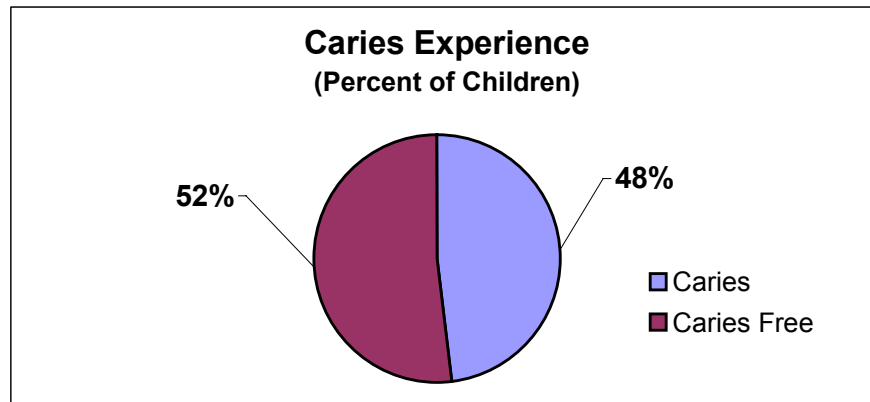
Figure 1:



(See Data Table 2, page 17)

Key Finding #2: 48 percent of the children had a history of dental caries – at least one primary tooth with a filling and/or an untreated cavity.

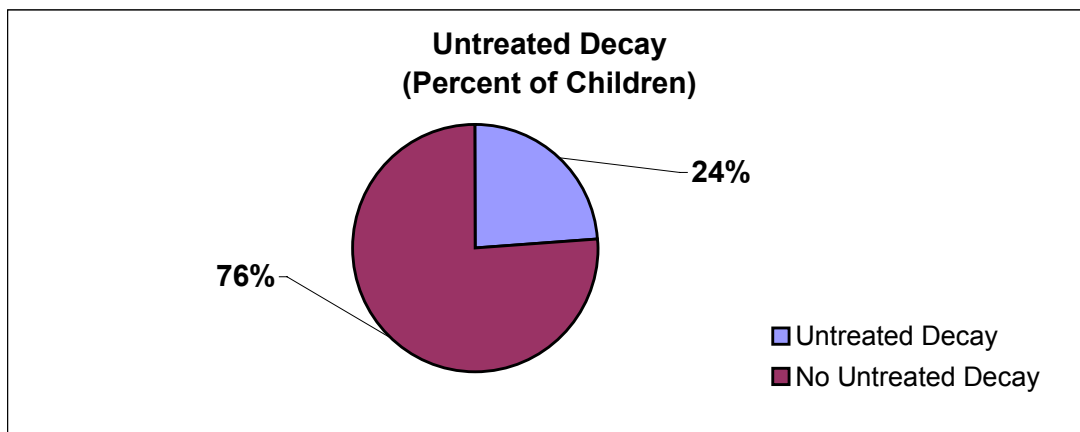
Figure 2:



(See Data Table 2, page 17)

Key Finding #3: 24 percent of the children had untreated decay – at least one primary tooth with an untreated cavity.

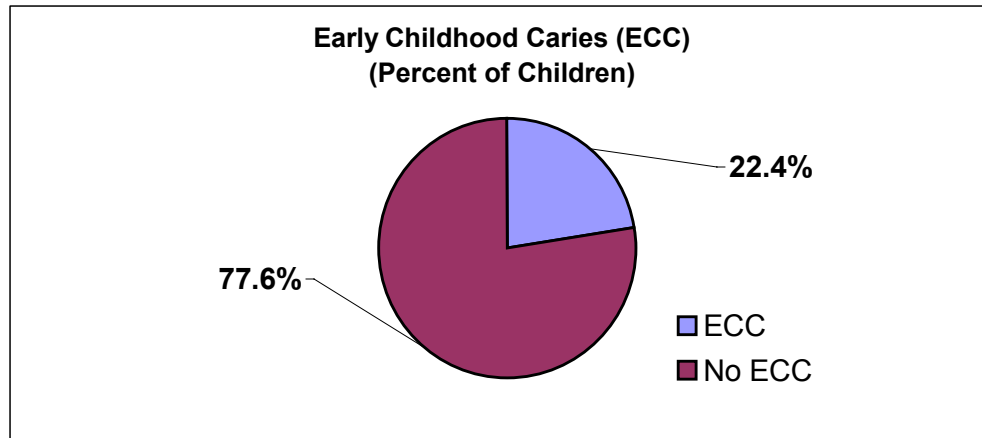
Figure 3:



(See Data Table 2, page 17)

Key Finding #4: 22 percent of the children had Early Childhood Caries (any child age 3 or under with at least one of six upper front teeth either decayed, filled or missing due to cavities).

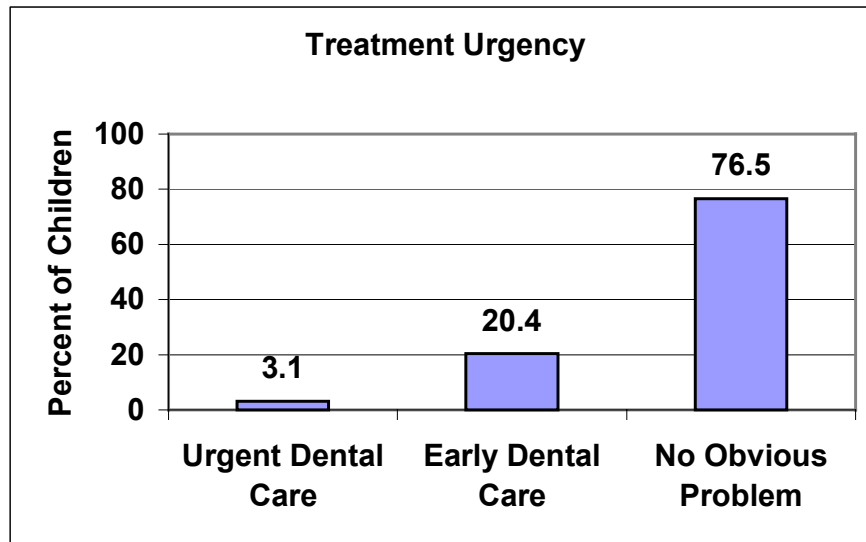
Figure 4:



(See Data Table 2, page 17)

Key Finding #5: 23.5 percent of the children screened needed dental care – 20.4 percent were in need of early dental care while 3.1 percent needed urgent dental care.

Figure 5:



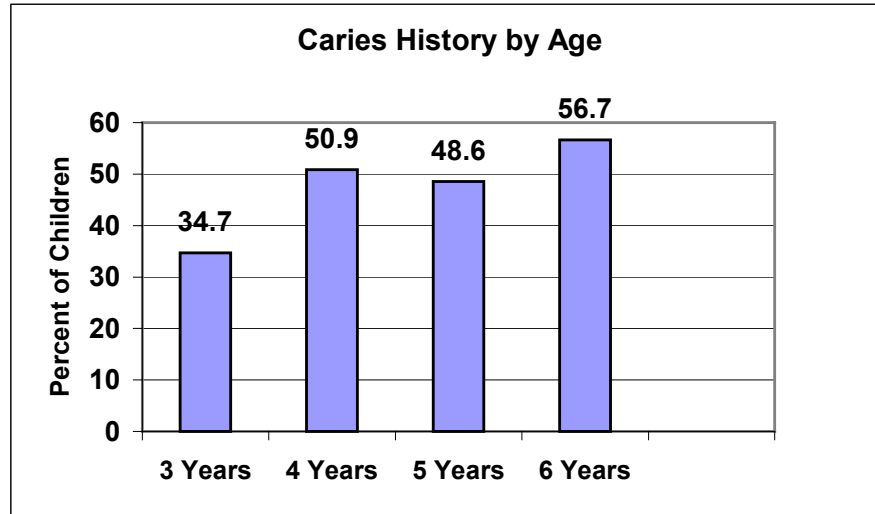
- Criteria for urgent care: signs or symptoms that include pain, infection, swelling, or soft tissue ulceration of more than two weeks duration.
- Criteria for early dental care: caries without accompanying signs or symptoms, individuals with spontaneous bleeding of the gums, or suspicious white or red soft tissue areas.
- Criteria for no obvious problems: any patient without the above listed problems.

(See Data Table 2, page 17)

Key Findings – By Age

Key Finding #6: As expected, caries experience increases with the age of the child. At three years of age, 34.7 percent of the children had a history of dental caries, while at six years of age, 56.7 percent of children had dental caries.

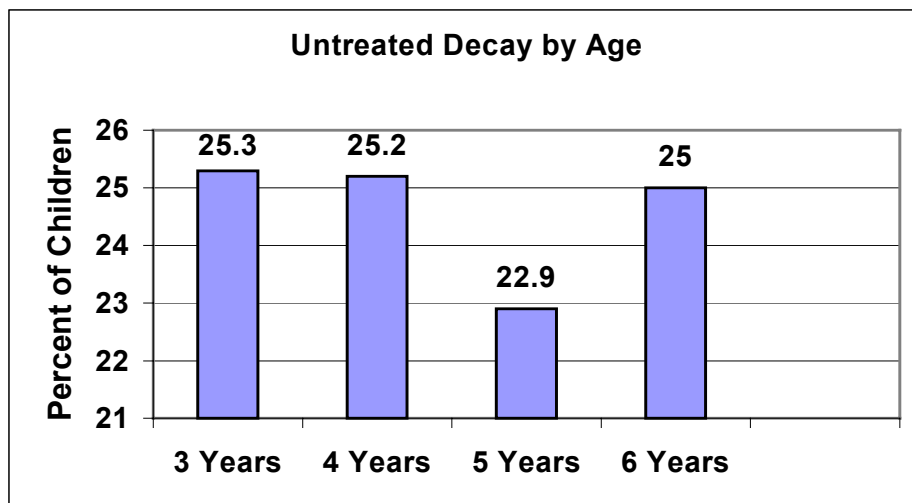
Figure 6:



(See Data Table 3, page 18)

Key Finding #7: The percentage of children with untreated decay remained stable with age at about 25 percent.

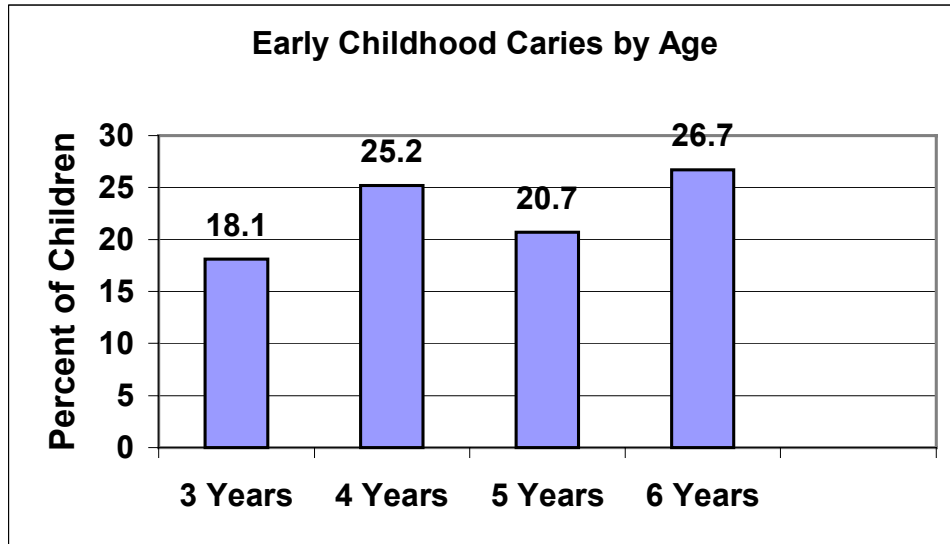
Figure 7:



(See Data Table 3, page 18)

Key Finding #8: As early as 3 years of age, 18 percent of Head Start children have Early Childhood Caries. By 6 years of age, over 26 percent experience Early Childhood Caries.

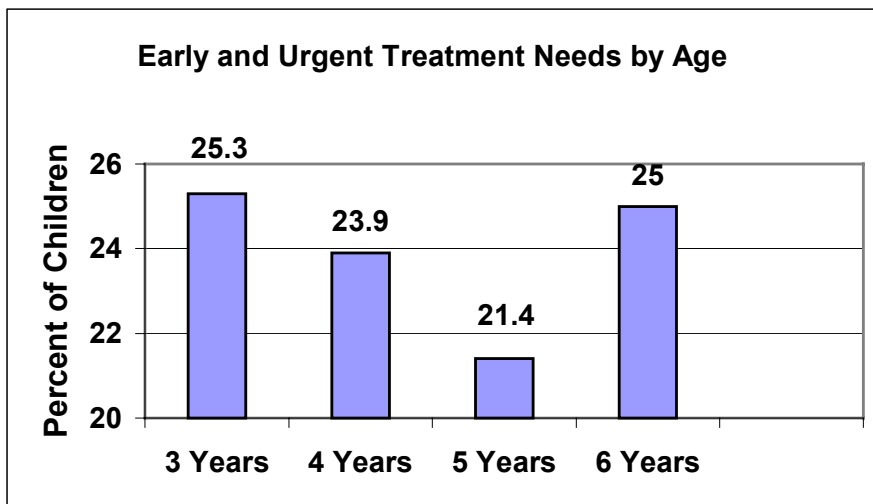
Figure 8:



(See Data Table 3, page 18)

Key Finding #9: In each Head Start age group, approximately 23% of the children require early or urgent treatment.

Figure 9:

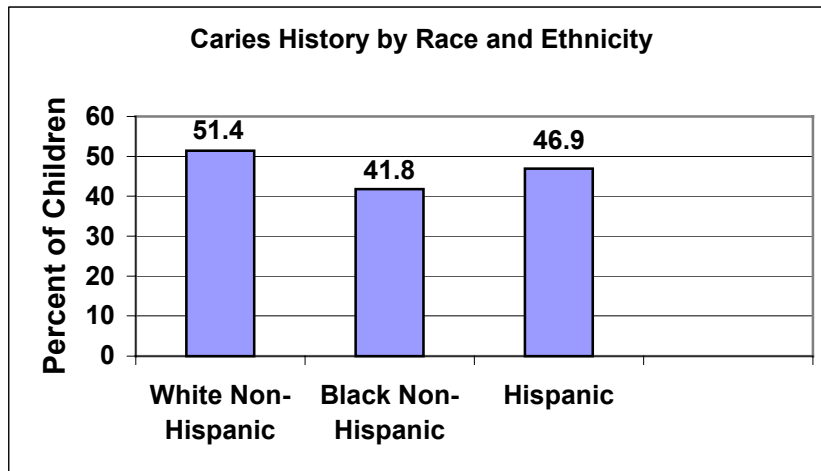


(See Data Table 3, page 18)

Key Findings – By Race and Ethnicity

Key Finding #10: The highest proportion of children with caries history were white, non-Hispanics.

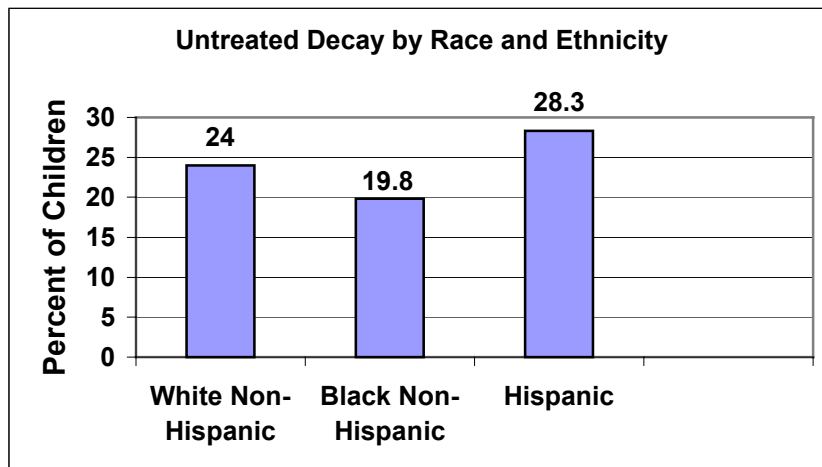
Figure 10:



(See Data Table 4, page 18)

Key Finding #11: The highest proportion of children with untreated decay were Hispanics.

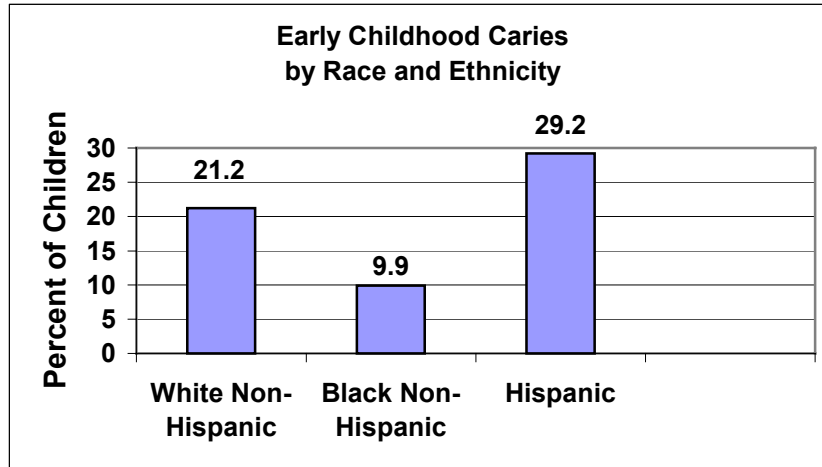
Figure 11:



(See Data Table 4, page 18)

Key Finding #12: Compared to white and Hispanic children, black Head Start children tend to have a lower prevalence of Early Childhood Caries.

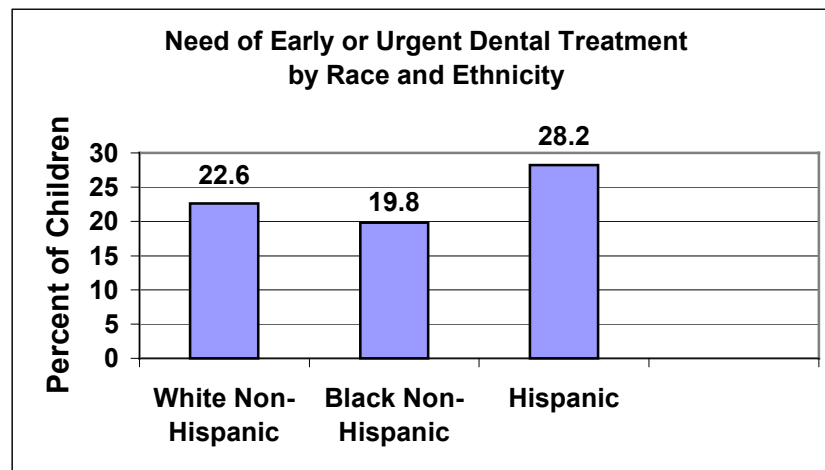
Figure 12:



(See Data Table 4, page 18)

Key Finding #13: Hispanic Head Start children were more likely to require early or urgent dental treatment.

Figure 13:

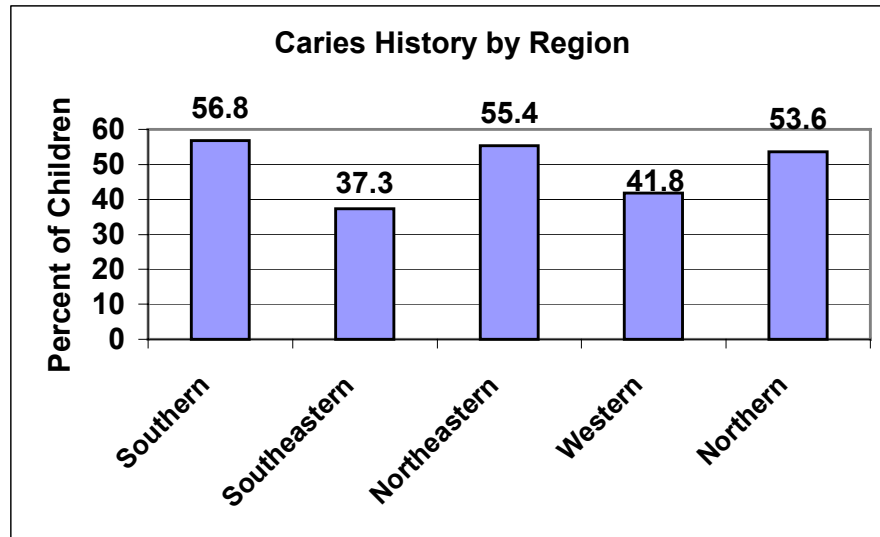


(See Data Table 4, page 18)

Key Findings - By Region

Key Finding #14: Caries experience in Head Start children was lowest in the Southeastern and Western Regions.

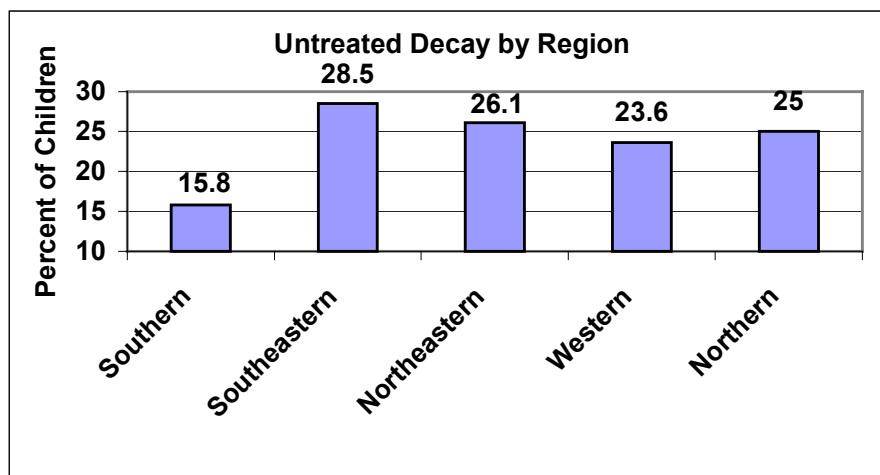
Figure 14:



(See Data Table 5, page 19)

Key Finding #15: Children in the Southern Region tended to have less untreated decay than children from the other regions while having a similar or greater level of decay experience. This suggests that access to restorative care may be easier for Head Start children in the Southern Region.

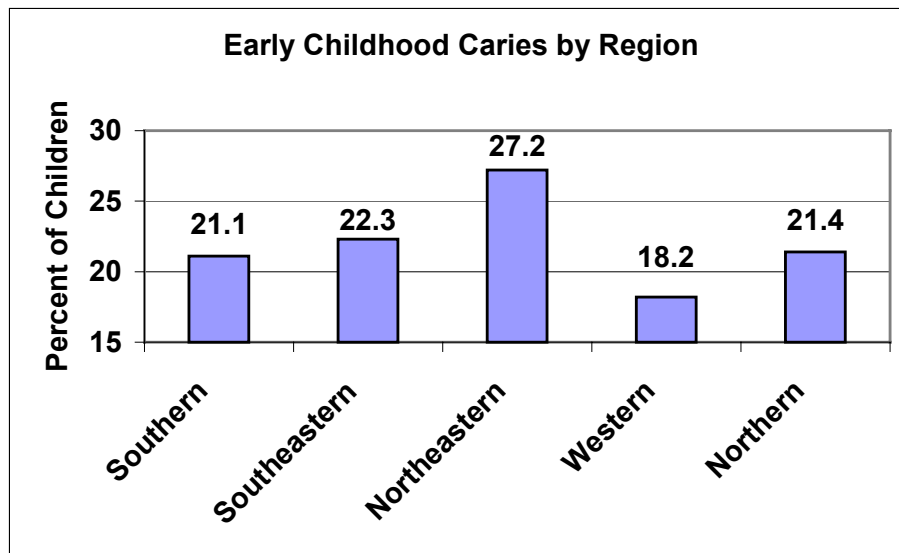
Figure 15:



(See Data Table 5, page 19)

Key Finding #16: Early Childhood Caries experience in Head Start children was similar in the five Regions.

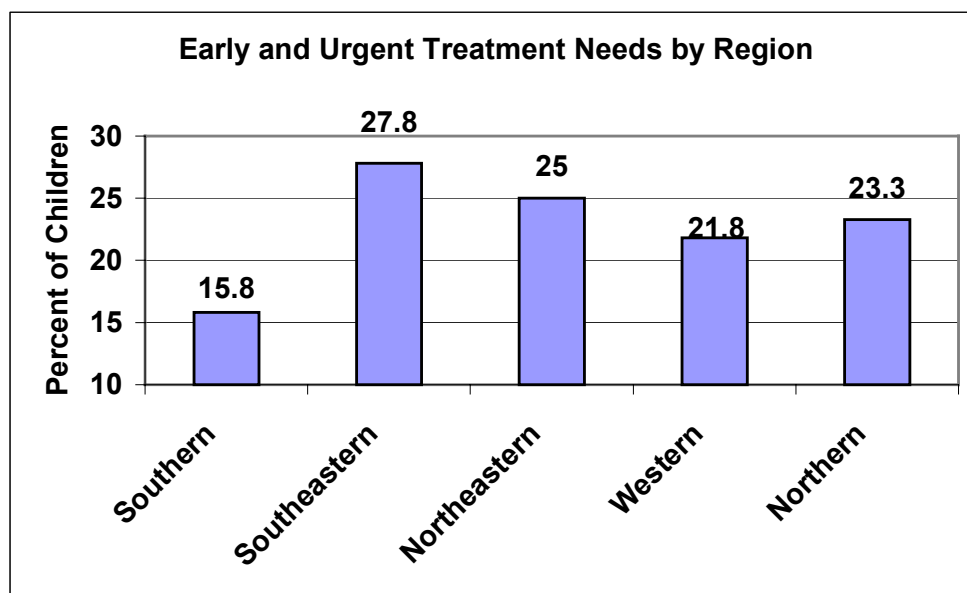
Figure 16:



(See Data Table 5, page 19)

Key Finding #17: The need for early or urgent treatment was lowest in the Southern Region.

Figure 17:



(See Data Table 5, page 19)

Comparison to Healthy People 2010 Objectives and National Data



The federal *Healthy People 2010* objectives outline several oral health status objectives for preschool children. For 2- to 4-year old children, there are two primary oral health status objectives:

- ***To decrease the proportion of children who have experienced dental caries in their primary teeth to 11 percent.***
- ***To decrease the proportion of children with untreated dental caries in their primary teeth to 9 percent.***

Figures 18 and 19 present the proportion of Wisconsin Head Start children with caries experience and untreated decay compared to the Healthy People 2010 objectives. Oral health status information for the Wisconsin Head Start children is presented for all children screened (age range = 3 to 6 years) and for the children of 3 to 4 years of age only. Regardless of the age range for the Wisconsin children, Head Start children in Wisconsin need considerable improvements in oral health in order to meet the *Healthy People 2010* objectives.

Figure 18:

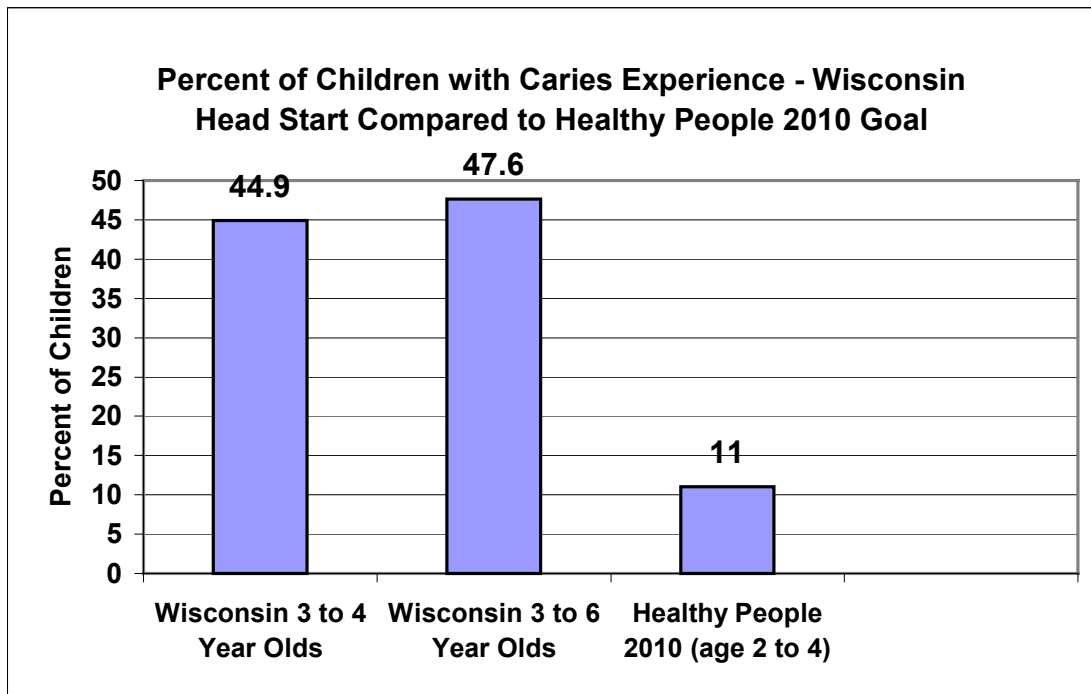
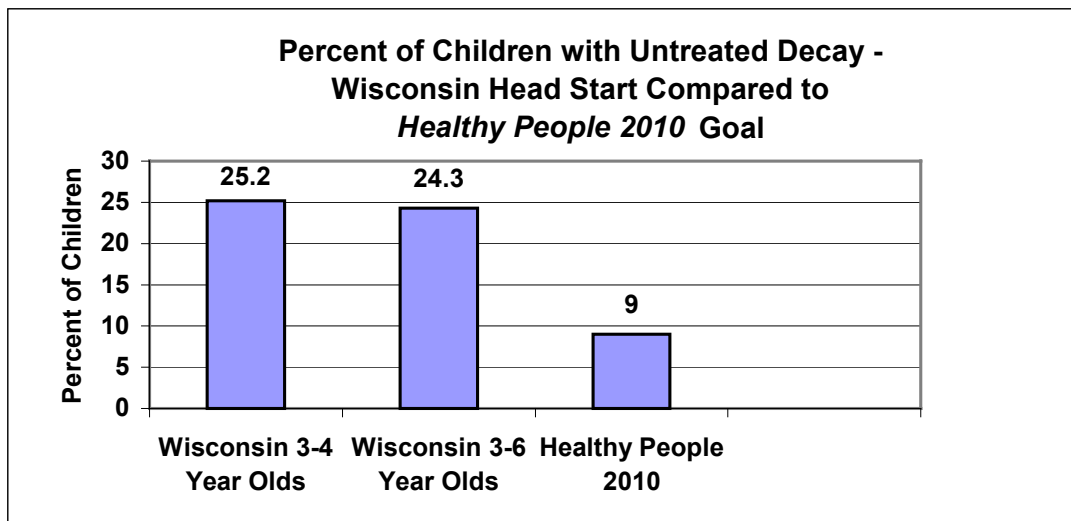
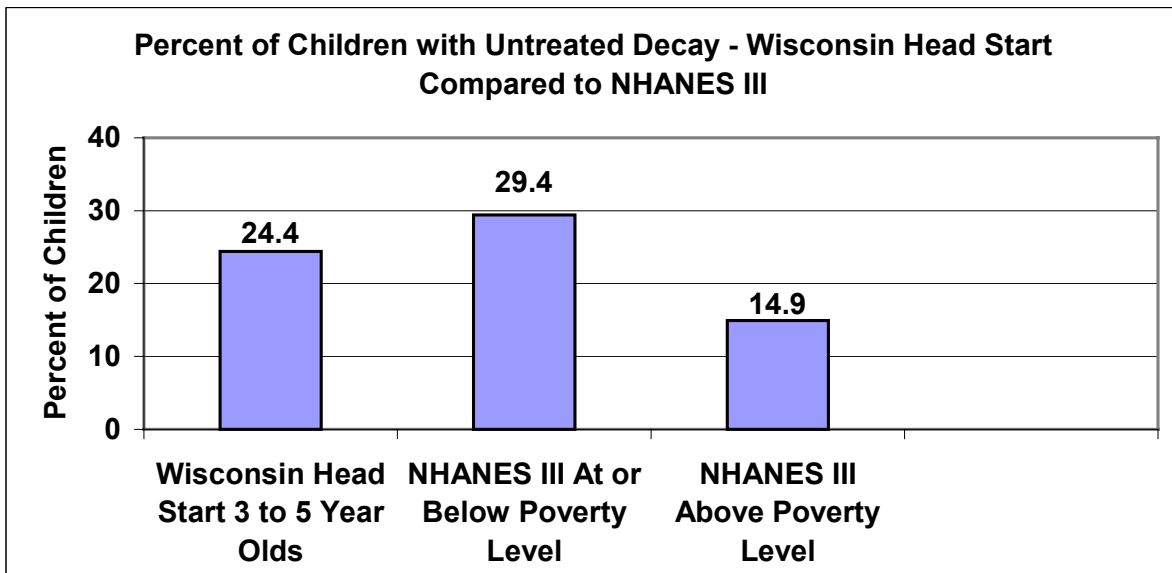


Figure 19:



Between 1988-1994, the Third National Health and Nutrition Examination Survey (NHANES III) obtained oral health information from a representative sample of United States children. Figure 20 compares the proportion of children 2 to 5 years of age with untreated decay examined by NHANES III with the proportion of the Wisconsin Head Start children between 3 to 5 years of age with untreated decay. The NHANES III data has been stratified by whether or not a child was below or above poverty level. Stratified sampling is simply forming subgroups (child below or above poverty level) of the population units and selecting a simple random sample of units from within each subgroup. Slightly more than 24 percent of the Wisconsin Head Start children between 3 to 5 years of age had untreated decay, while 29 percent of the NHANES III children at or below the poverty level, and 15 percent of the NHANES III children above the poverty level had untreated decay.

Figure 20:



*Data Tables
and
Appendices*

Table 1
Demographics of “Healthy Smiles for a Head Start” Children

Variable	Number, Mean or Percent
Number of children screened	456
Age of children screened	
Mean age	4.4 years
Age range	3 to 6 years
Sex of children screened	
Male	50.7%
Female	49.3%
Race of children screened	
White	32.5%
African-American	21.7%
Asian	7.7%
American Indian	0.9%
Multi-racial	1.8%
Unknown or missing	35.5%
Ethnicity of children screened	
Non-Hispanic	53.3%
Hispanic	31.8%
Unknown or missing	14.9%
Race and Ethnicity of children screened	
White non-Hispanic	32.0%
Black non-Hispanic	20.0%
Hispanic (includes all races)	31.8%
Other race or unknown	16.2%

Table 2
Oral Health of “Healthy Smiles for a Head Start” Children

Variable	Percent of Children	95% Confidence Interval
Caries Free	52.4%	47.7 – 57.1
Caries History	47.6%	42.9 – 52.3
Untreated Decay	24.3%	20.5 – 28.6
Early Childhood Caries	22.4%	18.7 – 26.6
Treatment Urgency		
No Obvious Problem	76.5%	72.3 – 80.3
Early Treatment	20.4%	16.8 – 24.4
Urgent Treatment	3.1%	1.8 – 5.2

Table 3
Oral Health of “Healthy Smiles for a Head Start” Children
Stratified by Age

Variable	Percent of Children (95% Confidence Interval)			
	3 Years (n=95)	4 Years (n=159)	5 Years (n=140)	6 Years (n=60)
Caries History	34.7% (25.3-45.2)	50.9% (42.9-58.9)	48.6% (40.0-57.2)	56.7% (43.2-69.4)
Untreated Decay	25.3% (16.9-35.2)	25.2% (18.6-32.6)	22.9% (16.2-30.7)	25.0% (14.7-37.9)
Early Childhood Caries	18.1% (10.9-27.4)	25.2% (18.6-32.6)	20.7% (14.3-28.4)	26.7% (16.1-39.7)
Treatment Urgency				
No Obvious Problem	74.7% (64.8-83.1)	76.1% (68.7-82.5)	78.6% (70.8-85.1)	75.0% (62.1-85.3)
Early Treatment	24.2% (16.0-34.1)	19.5% (13.6-26.5)	17.1% (11.3-24.4)	25.0% (14.7-37.9)
Urgent Treatment	1.1% (0.0-5.7)	4.4% (1.8-8.9)	4.3% (1.6-9.1)	0.0

Table 4
Oral Health of “Healthy Smiles for a Head Start” Children
Stratified by Race and Ethnicity

Variable	Percent of Children (95% Confidence Interval)		
	White Non-Hispanic (n=146)	Black Non-Hispanic (n=91)	Hispanic (n=145)
Caries History	51.4% (43.0-59.7)	41.8% (31.5-52.6)	46.9% (38.6-55.4)
Untreated Decay	24.0% (17.3-31.7)	19.8% (12.2-29.4)	28.3% (21.1-36.3)
Early Childhood Caries	21.2% (14.9-28.8)	9.9% (4.6-17.9)	29.2% (21.9-37.3)
Treatment Urgency			
No Obvious Problem	77.4% (69.7-83.9)	80.2% (70.6-87.8)	71.7% (63.7-78.9)
Early Treatment	19.9% (13.7-27.3)	16.5% (9.5-25.7)	24.8% (18.0-32.7)
Urgent Treatment	2.7% (0.8-6.9)	3.3% (0.7-9.3)	3.4% (1.1-7.9)

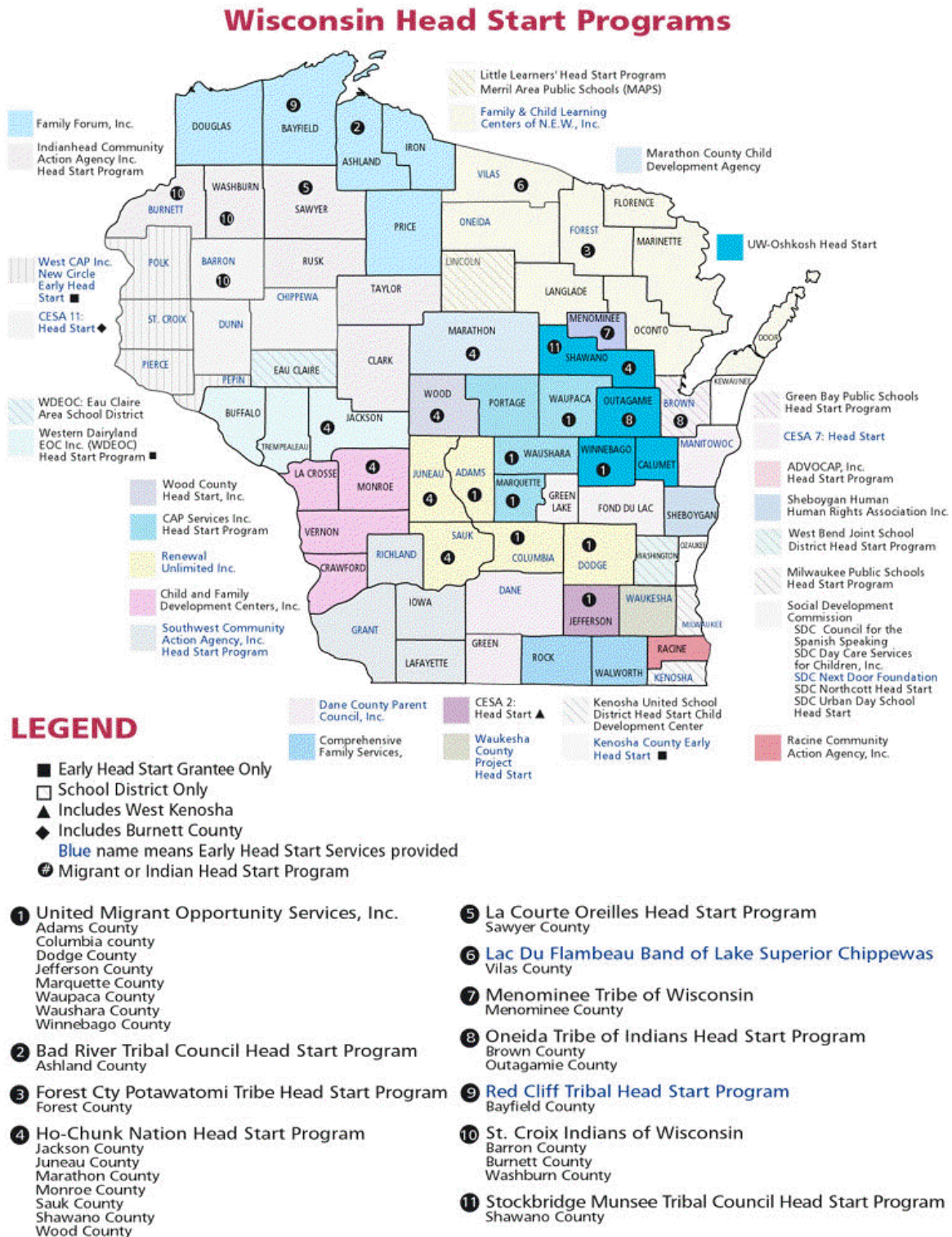
Table 5
Oral Health of “Healthy Smiles for a Head Start” Children
Stratified by Region

Variable	Percent of Children (95% CI)				
	Southern Region (n=95)	Southeastern Region (n=158)	Northeastern Region (n=92)	Western Region (n=55)	Northern Region (n=56)
Caries History	56.8% (46.3-67.0)	37.3% (29.8-45.4)	55.4% (44.7-65.8)	41.8% (28.7-55.9)	53.6% (39.7-67.0)
Untreated Decay	15.8% (9.1-24.7)	28.5% (21.6-36.2)	26.1% (17.5-36.3)	23.6% (13.2-37.0)	25.0% (14.4-38.4)
Early Childhood Caries	21.1% (13.4-30.6)	22.3% (16.0-29.6)	27.2% (18.4-37.4)	18.2% (9.1-30.9)	21.4% (11.6-34.4)
Treatment Urgency:					
No Obvious Problem	84.2% (75.3-90.9)	72.2% (64.5-79.0)	75.0% (64.9-83.4)	78.2% (65.0-88.2)	76.8% (63.6-87.0)
Early Treatment	14.7% (8.3-23.5)	23.4% (17.1-30.8)	21.7% (13.8-31.6)	21.8% (11.8-35.0)	17.9% (8.9-30.4)
Urgent Treatment	1.1% (0.0-5.7)	4.4% (1.8-8.9)	3.3% (0.7-9.2)	0.0	5.4% (1.1-14.9)

Appendix A

Wisconsin Head Start Programs

(to see this map on-line, visit <http://www.whsaonline.org/headstart.htm>)



Appendix B
Head Start Programs Participating in Survey

Wisconsin Department of Health and Family Services Region	Head Start Project City
Southeastern Region	Social Development Commission (SDC) Milwaukee
Southern Region	Dane County Parent Council, Inc. Madison
Northeastern Region	University of Wisconsin--Oshkosh Head Start Oshkosh
Northern Region	Wood County Head Start, Inc. Wisconsin Rapids
Western Region	Western Dairyland EOC, Inc. Independence

Appendix C
Department of Health and Family Services Regions



Project Direction

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